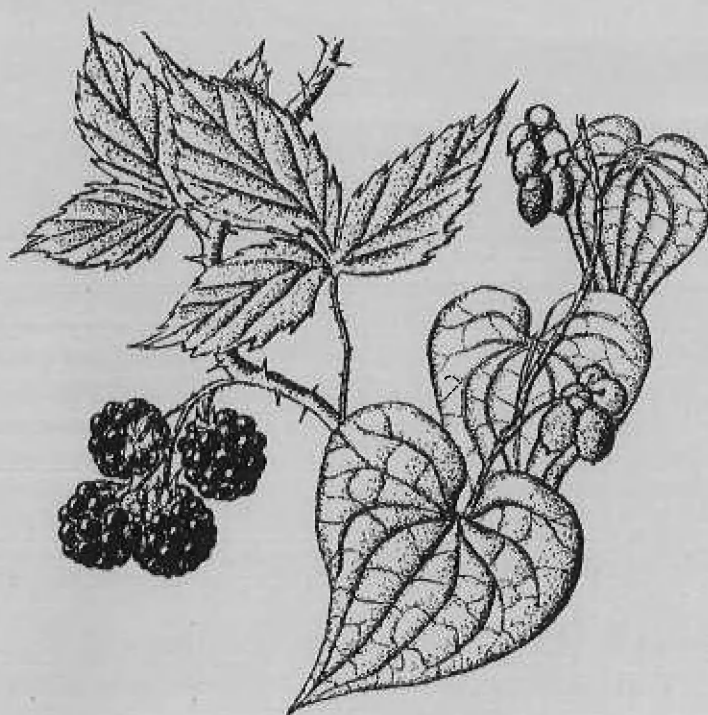


Shropshire Flora Group

Newsletter

Autumn 1996



The Rare Plants of Brown Moss

New Records from 1996

Christmas Meeting with Chris Preston



In association with the Shropshire Wildlife Trust
and the Botanical Society of the British Isles

The Shropshire Flora Group is supported
by the Leighton Committee of the Shropshire Wildlife Trust
and English Nature



Shropshire Flora Group Newsletter

Autumn 1996

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Shropshire Flora Group
21st Annual Meeting 14 December 1996

Dear Recorder

You are invited to join us for the 21st annual meeting of the Flora Group. As last year, we are the guests of Sue Townsend at the **Preston Montford Field Centre** on December 14th at 2pm and, as usual, we shall provide mince pies, tea and coffee.

Our guest speaker this year is **Chris Preston**, Director of the Biological Records Centre at the Institute of Terrestrial Ecology, Monks Wood. Chris has recently written the BSBI handbook on pondweeds (*Potamogetonaceae* and *Ruppiaceae*), which is sure to be the definitive text on these species for many years to come. He is also responsible for the production of the forthcoming *Atlas of the British Flora*, and will be talking about both of these subjects.

As far as group business goes, I would like to make a proposal to introduce a membership fee for the Flora Group. The reason is that membership has grown to the point where we are sending out over 100 newsletters, twice a year. Many of the recipients are not active recorders, but are interested in other aspects of the Flora Group's work - learning botany, having specimens refereed, or making enquiries from our database. These are all worthy activities, and I would like to encourage them, so long as we can do so without running out of money.

What I suggest, therefore, is that we introduce a subscription which entitles people to the newsletter and to come on the field trips and training sessions, but which doesn't oblige them to send in records every year. Of course, anyone can send us records, but a lot of people do not have the time to do much voluntary recording. I would appreciate your comments about this suggestion.

We have been invited by Veronica Cossons, the president of the Shropshire Wildlife Trust, to nominate a representative to Council, in recognition of the role the Flora Group plays within the Trust. I have asked **John Thompson** if he would be willing to take this on. John was until 1990 the Regional Officer for the West Midlands Region of the Nature Conservancy Council, and now works as an ecological consultant and advisor to English Heritage. John was an active supporter of the Wildlife Trust in its formative years, and is on the regional committee of the National Trust. I am pleased to say that he has recently become more involved in the Flora Group, and is one of our few contributors of records of fungi. He has a particular expertise in the flora and fauna of masonry - walls, that is, not secret societies... Personally, I am of the opinion that John's experience and diplomacy would be a great asset to both the Trust and the Flora Group in this role, and I would like to invite you to endorse his nomination.

Please give these matters some thought prior to the meeting.

I would be very grateful if everyone could send me their records this year as soon as possible, so that we can computerise them before the meeting. We can then have a good look at the rate of progress towards the Atlas 2000 project. I shall bring distribution maps and statistics on coverage. I look forward to seeing many of you there, and would be grateful if you could let me have some idea if you plan to come, so that I have some idea of the numbers.

Finally, may I congratulate Ian Trueman, our County Recorder, who was appointed Professor of Plant Ecology by Wolverhampton University earlier this year.

Sarah Whild - Flora Group Coordinator

New Records for 1996

Possibly the most interesting find of the year is Mountain Melick (*Melica nutans*) at Llanymynech Hill (SJ22, Jackie Pedlow det. M Wainwright). This grass occurs in woodlands, particularly in Scotland and the north-west, favouring limestone areas. In Shropshire it has previously been recorded only from the Wyre Forest (SO77) but there are some records from this part of Montgomeryshire (SJ21 & SJ01), most recently in 1977 (see the Shropshire & Montgomeryshire Floras). This may therefore be an interesting rediscovery of an old population, rather than a recent arrival.



A curious discovery was Common Wintergreen (*Pyrola minor*) which I stumbled across on an old spoil heap adjacent to a patch of ancient woodland in Coalbrookdale (SJW, SJ60). This is a species for which there are very few records in the county. Previous locations are:

Whitcliffe Wood (SO4974)

- ☐ Rev A. Bloxam <1841
- ☐ Rev T. Salwey <1841
- ☐ Dr G.C. Druce 1892
- ☐ J. Vaycey 1965
- ☐ Mr S.R. Turner 1971

Stanton Lacy (SO4978)

- ☐ Miss E. Armitage 1925

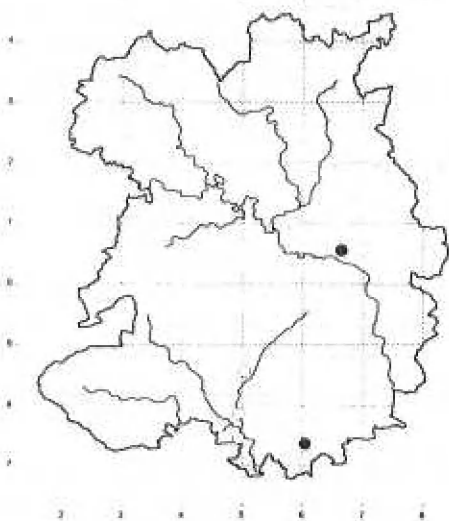
Diddlebury Common (SO5085)

- ☐ Rev T. Salwey <1841

Knowle Wood (SO6073)

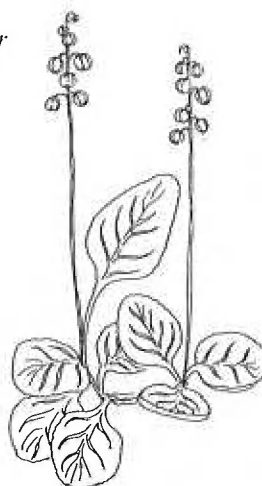
- ☐ L.W. Poel 1955
- ☐ Mary Fuller, Henry Hand & Rob Mileto 1987

It appears to occur in old woodland, but perhaps favours some disturbance.



Pyrola minor - Common Wintergreen

Pyrola minor



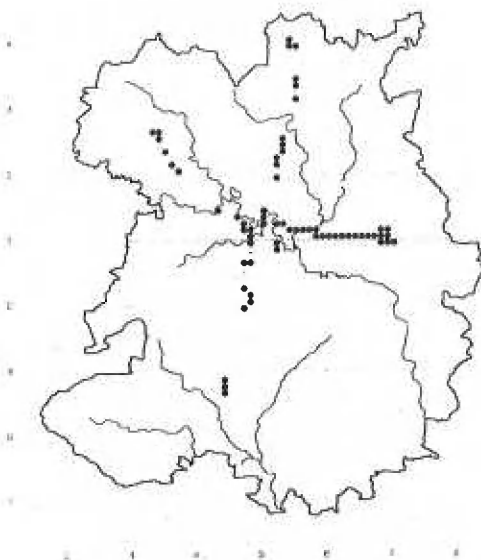
The Telford area quite probably has many more secrets to be discovered. There are two periods in which land has been abandoned: since the industrial revolution many ruins, spoil heaps and quarries have been left untouched, and many of these are now well-known Wildlife Sites and SSSIs. But a more recent phenomenon is the abandonment of farmland after a change to industrial or residential use. Some of these undeveloped areas have reverted to semi-natural conditions and harbour an interesting variety of wildlife. Few of these sites have been surveyed in recent years, but a new site for Royal Fern (*Osmunda regalis*) and Lemon-scented Fern (*Oreopteris limbosperma*) turned up this year, also in Coalbrookdale, well outside the usual range of these species.



Danish Scurvygrass (*Cochlearia danica*) has continued to make inroads on the county's flora this spring. It is very noticeable as drifts of small white-flowered plants on roadside verges in May. This species, which is normally restricted to coastal locations, has been spreading across Britain in recent years. It has found itself a previously almost unexploited niche as it is salt-tolerant and can survive in the most exposed part of the roadside where salt concentrations can get quite high from the practice of salting roads in frost and snow. Although roads have been salted for many years, it is thought that the recent population explosion in Danish Scurvygrass, not just in Shropshire but throughout the country, is due to highways authorities now obtaining their salt and grit supplies from coastal areas, thus bringing in the seed with the salt.

The first records in recent times were by Ian Trueman, who noticed it growing on the dual carriageway of the A49 near Whitchurch (SJ53) and Edna Stephenson of the Wigan & District Field Club, on the A442 near Crudgington (SJ61 - both 1993). But both of the records are merely newcomers, because there was an earlier invasion between 1800 and 1850, when it occupied various locations in Shrewsbury, including the walls of the castle, and then disappeared for more than 100 years.

The map below shows the recent records. Black dots are for 1996 sightings, open circles are for the years 1993-'95. I'm afraid many people contacted us this spring for what they hoped might be an interesting new find, because it is listed as extinct in the Flora but, as you can see, it is not even classified as scarce any more. Nevertheless, we would welcome any new records next year. Please give the name of the road and the 1km squares (not tetrads) in which it was found.



Cochlearia danica - Danish Scurvygrass

Franklyn Perring led a weekend course from Preston Montford studying crucifers, in July. Among the interesting records that were made was the hybrid watercress *Rorippa x sterilis* in ditches at Chemistry Farm, Whitchurch (FHP, SJ54) which is the site of a proposed extension to the Shropshire Union Canal. This is only the second county record for this hybrid, the first having been made by a somewhat younger Dr Perring, on the 8th of August 1977 at Hodnet Hall (SJ62).

The group also stopped in Shrewsbury to examine an unusual, glaucous plant that had sprung up on the towpath of the Severn near St Mary's Gate this year. Its precise identity defied all, and we had to settle for the genus alone, *Lepidium*. However, a voucher specimen and photograph was forwarded to our local BSBI referee for aliens, Dr John Mason (who also happens to be the senior conservation officer for English Nature at Attingham Park) who confirmed that it was *Lepidium sativum*, Garden Cress, albeit an unusual form. This is a species with remarkably few records for the county: sightings by James Cosmo Melville (1917), Bill Thompson (1982) and Ruth Dawes (1995) are the only ones we know of. It is found in bird seed and occasionally occurs in the wild for short periods.

The third notable find by Dr Perring on his short visit was of Lesser Marshwort (*Apium inundatum*) in a

damp hollow on Haughmond Hill. Only a tiny specimen was found, but we subsequently located the probable source of this population in another pond on the hill (SJW, SJ51) where it is to be seen flourishing with Water-violet (*Hottonia palustris*) and Broad-leaved Pondweed (*Potamogeton natans*) in a shallow pool among the conifers.



Rob Stokes has, as usual, presented us with a number of interesting new records for alien species. He found Curly Waterweed (*Lagarosiphon major*) at the Old Shrewsbury Canal, which runs from Ditherington to Haughmond Hill.

This is only the second county record for a species which is extremely invasive. It looks rather like a large version of Canadian Pondweed (*Elodea canadensis*) and tends to fill any water body in which it finds itself. It is sold by garden centres and pet shops as an 'oxygenating plant'. The water in the old canal is a veritable soup of alien aquatics - presumably introduced by local people - a problem which so far has defied resolution. Apart from the *Lagarosiphon*, the aliens established there include Least Duckweed (*Lemna minuta*), Parrot's Feather (*Myriophyllum aquaticum*), Canadian Pondweed and, until recently, Water Fern (*Azolla filiculoides*) and Water Soldier (*Stratiotes aloides*). The last two, thank goodness, appear to have died out.

Here are some more of Rob's records for 1996:

- ☐ Cypress Spurge (*Euphorbia cyparissias*) SJ492137. Coton Hill railway sidings, Shrewsbury. 2nd county record? The only other record we have is by George Potts and William Beriah Allen at Buildwas in 1918.
- ☐ Forsythia (*Forsythia x intermedia*) naturalised alongside the Old River Bed, Shrewsbury. SJ4915. 1st.
- ☐ *Forsythia suspensa*. The Ercall. SJ6309. 1st.
- ☐ Hybrid Reedmace. *Typha x glauca*. SO7799. Church Pool, Badger. 1st.
- ☐ *Mimulus x robertsii*. SJ4330. Crose Mere. 1st.
- ☐ Unspotted Lungwort (*Pulmonaria obscura*) SO7183. Ray's Bridge. Ian Trueman & Rob Stokes. 1st.



A couple of other noteworthy records for the year:

- ☐ A new dot for the Flora comes from the discovery of Cowbane (*Cicuta virosa*) in a village pond in SJ53 - a new hectad in Shropshire for this nationally scarce plant (Alex Lockton).
- ☐ Corn Chamomile (*Anthemis arvensis*) is an uncommon species which has had a good year. It turned up at Berrington Pool (SJW, SJ50) and Eaton Constantine (Rob Stokes, SJ50). These two new records relegate it from 'rare' to 'scarce' in the county.

1996 Field Meetings

Beck's Field

There was a small turnout of Flora Group members for the visit to Beck's Field in April, but we also had along the team from Shrewsbury's Countryside Unit, including John Hayward, the departing leader, and Jerry Longley, the new incumbent. Jerry joins us from Montgomeryshire, where he worked for the local Wildlife Trust. Among the species found - despite the late spring - was plenty of Meadow Saxifrage (*Saxifraga granulata*) just coming into flower. Meadow Saxifrage was first recorded at Beck's Field by Miss Prideaux in 1944, and it still grows in the same place, along the top of the banks of the river. This species has two typical habitats in the county: it is often found in mesotrophic grassland such as that found at Haughmond Abbey, Bridgnorth Cemetery and along the Mile Walk at Attingham Park; but it also pops up in old woodland, especially alongside streams. Wherever it occurs, it is indicative of low-intensity management and species richness.



Pentre Hill

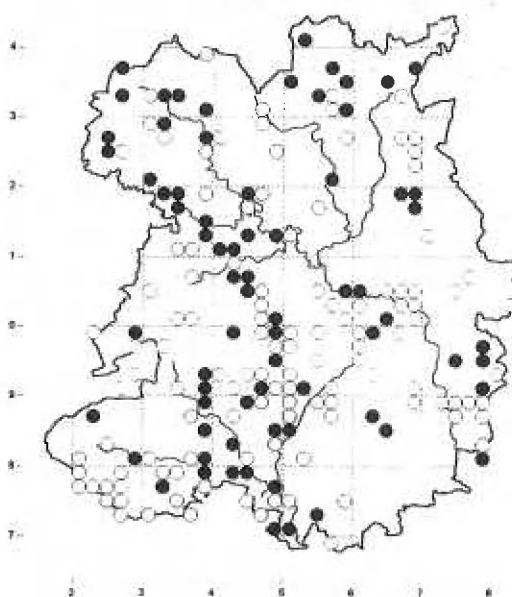
The second visit, to Pentre Hill near Clun, was much better attended. Three groups set out to explore the hills and found, among other things, a new site for Upright Chickweed (*Moenchia erecta*) on Panponton Hill. One group visited the pond at Pentre Hodre, where the Parish Council have been restoring the water level and the BTCV have been clearing silt and debris. A Black Poplar (*Populus nigra* ssp. *betulifolia*) planted by the pond is a cutting from the old Arbor Tree at Aston, and the Wood Crane's-bill (*Geranium sylvaticum*) that has appeared at the lay-by is almost certainly a garden escape, but an interesting one none the less. On the whole it seems best to leave it to nature to introduce species into large ponds - the 'goodies' you want will soon disappear: Fringed Water-lily (*Nymphoides peltata*) was recorded at Pentre Hodre Pond in 1976, but the hot, dry summer put an end to it. Meanwhile the 'baddies' such as New Zealand Pigmyweed (*Crassula helmsii*) and Least Duckweed (*Lemna minuta*) which are both now found there, will probably flourish to the detriment of everything else.

It is always worth mentioning the importance of black poplars, because published accounts differ greatly. There are many varieties and hybrids of black poplar (*Populus nigra*), the most obvious of which is the Lombardy Poplar (*P. nigra* var. *italica*). These are all introduced to the British Isles except the one native form (*P. nigra* ssp. *betulifolia*) which is endemic, and therefore a Red Data Book species, albeit merely a subspecies. It is said to be our largest native tree. This true black poplar can be recognised by its drooping branches - as a rule, if you cannot reach the leaves, it

isn't a native black poplar - and by the large burrs on its trunk. If it has these features, you should always collect a twig with a few leaves and, if possible, take a photograph. It is worth looking for hairs on the petiole - present in the true black poplar, although they can lose this pubescence in the latter part of the year. Nearly all the specimens you will come across will be male, so it is worth looking out for fruit on the off-chance that you have a rare female. Send the leaves and photograph to Sarah Whild for confirmation, together with a six-figure grid reference and description of the site. One of the tests is to look for glands at the base of the leaves, just above the petiole: this is a certain indicator for the hybrid *Populus x canadensis*, some varieties of which are very similar to the native.

For many years the BSBI referee for the black poplar was Edgar Milne-Redhead, who died in June this year at the age of 90. Those who are members of the BSBI will know of Edgar as the man who led the campaign to stop the Cow Green reservoir being built in Upper Teesdale - a campaign that was lost, but which had an enormous impact on the development of the conservation movement in Britain.

There are thought to be some 200 black poplars in Shropshire but none of them are male. The Environment Agency has been tracking them all down this year, and will be conducting DNA tests on all the specimens they can find. Co-ordinators please note: *P. nigra* is included on the M card, but it would be helpful if you would ignore this and fill out an R card for every site, specifying the number of individual trees.



Populus nigra ssp. *betulifolia*
The native Black Poplar
Open circles show pre-1985 records.

Sodylt Wood

It poured with rain on the 19th of May, but Ian Trueman, Pat Parker and Sarah Whild braved the weather to explore the Woodland Trust reserve at Sodylt Wood. Much of this is a forestry plantation, which is gradually being felled and replaced with native broadleaves, and the ecological interest is not all that great. But the other woods alongside the Dee, in some places reduced to a very narrow strip, are mostly ancient woodland, and support a great variety of indicator species. The most interesting find of the day was Marsh Hawk's-beard (*Crepis paludosa*) a scarce plant in Shropshire, and a new hectad 'dot' for the forthcoming atlas of the British Isles. This species is common in Scotland and the north-west, but distinctly on the edge of its range in this county. Meadow Saxifrage was also found, growing in its woodland situation.



Cleobury North

The owner of the meadow we wanted to visit on June 5th refused us permission, apparently because he feared we would immediately schedule it a Site of Special Scientific Interest. It is one of the last known flood meadows in the county - characterised by the classification MG4: *Alopecurus pratensis* - *Sanguisorba officinalis* grassland. The only other known place for this vegetation type is at Epson-Sony Corporation's industrial site in Hortonwood, Telford, where the company maintains several acres of this habitat - and welcomes visitors by appointment. However, having been refused permission to survey the meadow of our choice, we went to a couple of farms on the Burwarton Estate near Cleobury North. These farms included some rich, unimproved hay meadows and interesting woodland alongside the streams with, among other species, our old favourites, Meadow Saxifrage and the native Black Poplar.



Wroxeter Roman City

Wroxeter Roman City, also known as Viroconium or Uriconium, was a popular spot for recording early in the century, when excavations were under way. It can boast the first county record for Sweet William (*Dianthus barbatus*) by Arthur White and his daughter, Miss K. White, in 1923. This quite uninspiring discovery saves Ian Trueman from the embarrassment of publishing his recent record for this plant. There is not much of interest among the ruins themselves these days, but other records by the Whites include Spreading Bellflower (*Campanula patula*) and Nettle-leaved Bellflower (*C. trachelium*).

James Cosmo Melvill found a fumitory *Fumaria officinalis* ssp. *wirtgenii* (det. Pugsley) there, growing in great abundance, between 1914 and 1924. There is no other confirmed record for this species in the county, but it is the commoner subspecies in the eastern parts of England, being replaced by ssp.

officinalis in the west and north. He also recorded Wild Parsnip (*Pastinaca sativa*) and Great Mullein (*Verbascum thapsus*) in the 1920s. Another interesting find was Henbane (*Hyoscyamus niger*), found by Charles Sinker in 1958.

Of more interest these days is the land around Wroxeter, much of which is owned by English Heritage. The hedgerows are rich and include such unusual species as the Silky-leaved Osier (*Salix x smithiana*) and Hop (*Humulus lupulus*). Down towards the river are some semi-improved fields leading to a very shallow stretch of water over to Wroxeter Eyot, a large island also in the guardianship of EH. A Wildlife Trust survey in 1990 apparently turned up Broad-leaved Helleborine (*Epipactis helleborine*) but I confess we did not venture through the dense stands of nettles to look for it. Of more interest was the channel itself, with Arrowhead (*Sagittaria sagittifolia*) and both River and Stream Water-crowfoot (*Ranunculus fluitans* & *R. penicillatus*). The latter is greatly under-recorded, but can easily be recognised by the bunches of leaves, which are much shorter than in river water crowfoot, forming distinct tassels, and the hairy receptacle (you need a good lens, x20, then pluck off the achenes to reveal the receptacle underneath). It tends to occur in the shallower water, in the riffles of small, clean rivers. Among the inhabitants of this stretch of riverbank we found water voles, which are apparently becoming quite rare, and also duck mussels.



Tern Hill

The tetrad-bashing exercise on July 2nd in SJ63 was not popular, partly perhaps because of unfavourable weather, partly owing to an unappealing location, and partly because we listed the time wrongly in the newsletter. As a Wednesday evening meeting, it was due to start at 6.30pm, not 11am as stated. We hope nobody was confused by this, and we must remind everyone to confirm details of meetings before you turn up, especially if it is the first one you have been to in a while. If we do have to change the arrangements, it is simply not practical to notify everyone. However, we can declare that SJ63C was duly surveyed. It must be one of the most biomonotonous tetrads in the country, with *Lolium perenne* and *Triticum aestivum* dominant throughout. But even in such an intensively-farmed area as this there are plenty of relicts of previous richness: Meadow Vetchling (*Lathyrus pratensis*) and Smooth Tare (*Vicia tetrasperma*) are abundant in some of the verges and the by now familiar Silky-leaved Osier was recorded in the hedgerows.



None of this year's field trips have been specifically for training, as we wanted to cover a lot of ground prior to the Atlas Project. Next year, however, we shall again be holding one or more training sessions on specific taxonomic groups.

The Rare Plants of Brown Moss

Brown Moss is a nature reserve that many Flora Group members will know. It is situated about three miles south-east of Whitchurch, at grid reference SJ5639, and comprises some 31 hectares of heath and woodland with thirteen shallow pools. It is a Site of Special Scientific Interest and is registered common land. Several local people have the right to graze and water livestock, take sand, gravel and wood, to fish and to swim and take exercise although, except for the latter, these rights are not generally used. The reserve is signposted from the A49 and there are two car parks and a circular walk.



Historical Surveys

Although Brown Moss is now widely studied and acknowledged as a centre of biodiversity, it appears to have been unknown to William Leighton and the botanists of the 19th century. The earliest mention of it in the literature is in the Transactions of the Caradoc & Severn Valley Field Club for 1955, when Edward Rutter made a brief visit in September and found Floating Water-plantain (*Luronium natans*), Marsh Speedwell (*Veronica scutellata*) and Least Bur-reed (*Sparganium natans*). He returned the following year with Miss H Bigwood and Edward Wilson to what they described as "a locality of quite unusual botanical interest". They recorded Bog Pimpernel (*Anagallis tenella*), Nodding Bur-marigold (*Bidens cernua* var. *radiata*), Round-leaved Sundew (*Drosera rotundifolia*), Marsh St John's-wort (*Hypericum elodes*), Bogbean (*Menyanthes trifoliata*) and Adder's-tongue (*Ophioglossum vulgatum*). At this time the moss was described as "an area of shallow pools surrounded by heather and birch" (Rutter).

These records are put in perspective when one considers that it was in 1956 that the Field Studies Centre was established at Preston Montford, under the leadership of Charles Sinker, and it was to be another three years before the Nature Conservancy (now English Nature) appointed its first officer in the county - Tom Pritchard.

Brown Moss soon became a regular destination for botanists, and in July 1962 Franklyn Perring led a BSBI meeting there. That year Sinker's paper *The North Shropshire Meres and Mosses - a background for ecologists* was published in *Field Studies*, in which he describes the vegetation of Brown Moss and draws attention to the "striking contrast between the acid state of the heathland (pH c. 4) and the high base status of the pools (pH 6-7.5)". He adds many species to the list for the site, including Orange Foxtail (*Alopecurus aequalis*), Lesser Marshwort (*Apium inundatum*), Floating Club-rush (*Eleogiton fluitans*), Alder Buckthorn (*Frangula alnus*), Water Violet (*Hottonia palustris*) and Tubular Water-dropwort (*Oenanthe fistulosa*). Edward Rutter is credited with

the discovery of Pillwort (*Pilularia globulifera*) on the margins of the main pool in the same year, which

perhaps explains why it is not listed by Sinker. Rutter also recorded both Branched- and Unbranched Bur-reed (*Sparganium erectum* spp. *erectum* & *S. emersum*).

In the following year, Sinker found Small-fruited Yellow-sedge (*Carex viridula* ssp. *viridula*; at that time known as *Carex serotina*) on the margins of one of the pools (presumably the big pool, where it grows today) and took a specimen of this first county record for the herbarium in Shrewsbury Museum. To this list he also added a record for Many-stalked Spike-rush (*Eleocharis multicaulis*) in 1965.

There is a nationally rare liverwort, *Riccia canaliculata*, on Brown Moss, which was shown to Chris Walker by Prof. Jeff Duckett of London University in 1977. This is only the second known site for this species in Britain, but we have no information about it since that time. Walker subsequently found White Sedge (*Carex curta*) in 1981.

One other rare species that has been recorded on the moss is Shoreweed (*Littorella uniflora*). Sarah Whild holds the first record for it, dated 1986. Whether it is a recent arrival, or had lurked in some unexplored corner for so long, remains a mystery.



Habitats

This is truly remarkable assemblage of plants. Many of these species are rare or uncommon, either nationally or within the county. One of the reasons that so many important species occur in such a restricted geographical area is that the Moss is a complex mosaic of habitats. Of particular interest are three types:

- ☐ Wetland, particularly marginal vegetation. Many of the rarer species exist in the wide, muddy fringes of the pools, where they are inundated at times of high water level, and often grazed by water fowl. The quality of the water is critical, and there is a wide variation in the levels of nutrients and the pH of the various pools.
- ☐ Heathland. Lowland heath is an increasingly uncommon habitat in Britain, and one that is peculiar to the north-west of Europe. It is essentially a man-made habitat, but one which is very ancient, and which may well have existed for hundreds of years at Brown Moss until it reverted to woodland during the last half century or so.
- ☐ Peat bog. There are now just two small areas of *Sphagnum* moss at Brown Moss but Sinker (1962) suggests that all the pools may at one time have been filled with peat, which has since been extracted. Pool 9 is one of only two schwingmoors (floating peat bogs) in Shropshire. These are the characteristic habitats of Brown Moss. Other vegetation types to be found include secondary

woodland (mainly birch woodland) and tall herb communities - Rosebay Willowherb (*Chamerion angustifolium*) and Bracken (*Pteridium aquilinum*) are particularly noticeable.



Species Accounts

This brief article is concerned with the more uncommon plants to be found at Brown Moss. The species are divided into three categories, according to the habitat in which they tend to be found. Many are either rare or scarce in the county, as defined in *Rare Plants of Shropshire* (Lockton & Whild, 1995) ie. present in just 10 or fewer sites. Several other species are included because they have a restricted distribution, and are particularly interesting in the local context.

Wetland Species

- ☐ *Alopecurus aequalis*. Orange Foxtail. Not recorded anywhere else in Shropshire for 10 years or more, but possibly overlooked. It was very abundant all around the moss this year.
- ☐ *Apium inundatum*. Lesser Marshwort. Scarce in Shropshire, being recorded from just half a dozen sites in the last 10 years. It is still frequent at Brown Moss.
- ☐ *Baldellia ranunculoides*. Lesser Water-plantain. Rare in Shropshire, being known now only at Brown Moss, although Leighton cited eight other locations in 1841. Several plants were seen in 1996.
- ☐ *Carex viridula* ssp. *viridula*. Small-fruited Yellow Sedge. Rare in Shropshire, only ever found at Brown Moss. It still grows there in some abundance.
- ☐ *Eleogiton fluitans*. Floating Club-rush. Scarce in Shropshire, only half a dozen locations being known. There has been a serious decline in this species in recent decades, and the population at Brown Moss was reduced to a tiny clump in a dry pool in 1996.
- ☐ *Hypericum elodes*. Marsh St John's-wort. Scarce in Shropshire, with fewer than ten sites for it recently. There were quite a few patches around the main pool at Brown Moss in 1996.
- ☐ *Littorella uniflora*. Shoreweed. Rare in Shropshire, with only three sites for it in the last ten years. A serious decline since the days of Leighton. It has been abundant at Brown Moss in recent years but there was none to be found this summer although an earlier visit in the Spring revealed many plants around the main pool.
- ☐ *Luronium natans*. A nationally important species, of which Britain has a considerable proportion of the world population. It is scarce in Britain and rare in Shropshire, existing only at Brown Moss and in the Shropshire Union Canal. There are very few recent records, and those are for tiny

quantities. It was not evident in 1996 at Brown Moss and, if the restoration of the Montgomery Canal has an adverse effect, it may be in danger of imminent extinction in the county.

- ☐ *Oenanthe fistulosa*. Tubular Water-dropwort. A uncommon plant with a restricted distribution. It is not yet scarce in Shropshire but, unless it is being drastically under-recorded, it is suffering a serious decline in recent years. Only one plant was found at Brown Moss this summer.
- ☐ *Pilularia globulifera*. Pillwort. Extinct in Shropshire. Although it was formerly known at half a dozen sites in the county, the only recent records were for Brown Moss. It is believed to have been accidentally destroyed there by dredging the pools to maintain open water in the mid-1970s.
- ☐ *Potamogeton obtusifolius*. Blunt-leaved Pondweed. Scarce in Shropshire. A species typical of lowland pools with a peaty substrate, it appears to have suffered a marked decline throughout Britain in recent decades. In Shropshire there are probably now fewer than ten sites remaining. It has gone from Brown Moss, possibly having disappeared when the pools dried up in the late 1970s.
- ☐ *Riccia canaliculata*. A liverwort. A national Red Data Book species (RDB3) - only found in two locations in Britain, apparently. The other site is not in Shropshire.
- ☐ *Ricciocarpos natans*. A liverwort. Rare in Shropshire, recorded only from Brown Moss. Last seen in some abundance in 1995, but apparently absent in 1996.
- ☐ *Sparganium natans*. Least Bur-reed. Rare in Shropshire, being found only at Brown Moss. Last recorded there in 1994, and has not been found since despite careful searching. Perhaps another species in danger of extinction in the county...

Peat Bog Species

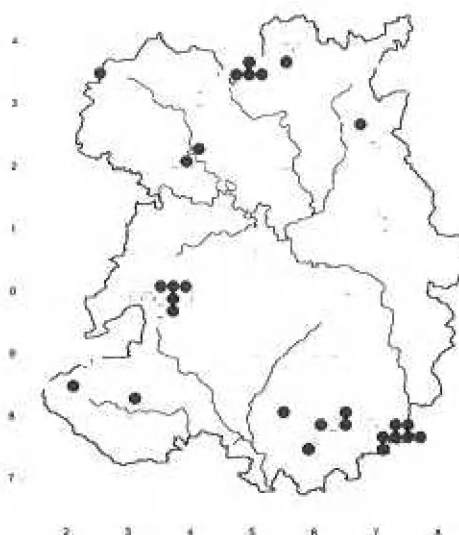
- ☐ *Carex curta*. White Sedge. Scarce in Shropshire? Has vanished from Brown Moss. It is now found in fewer than ten sites in Shropshire - although it might be under-recorded.
- ☐ *Drosera rotundifolia*. Round-leaved Sundew. A species which is quite uncommon in the lowlands. It is found on the Stiperstones, Long Mynd and Titterstone Clee, but is restricted on the north Shropshire plain to a few intact peat bogs. At Brown Moss it was still quite abundant within the tiny area of pool 9 in 1996.
- ☐ *Eleocharis multicaulis*. Many-stalked Spike-rush. Rare in Shropshire. It was found in pool 9 in 1965 by Charles Sinker, but there are no confirmed records of it there since then. This species may now occur within the county only in

the vicinity of Titterstone Clee and Catherton Common.

- ☐ *Eriophorum angustifolium*. Common Cottongrass. Another species which is fairly frequent in upland areas, but increasingly under threat in the lowlands. There are fourteen sites in which it has been recorded in Shropshire during the last ten years. At Brown Moss it is found only in pool 9.
- ☐ *Frangula alnus*. Alder Buckthorn. Recorded at Brown Moss between 1962 and 1977, it does not appear to be there still. Although it is currently found at a dozen or more sites around the county, it appears to have declined in recent years.

Heathland Species

- ☐ *Ophioglossum vulgatum*. Adder's-tongue. This is, strictly speaking, a grassland species but the heathland at Brown Moss is in a grassland mosaic. This fern not been seen at Brown Moss since about 1965. It used to occur "above the bog, under heather" (Rutter). This is another species which has declined considerably, and is very rare in the north-east half of the county.
- ☐ *Carex pilulifera*. Pill Sedge. Not scarce in Shropshire, but with a scattered distribution, mostly in areas of upland heath. It had not been recorded since 1965, but was found again in small quantity in 1996 by Ian Trueman.
- ☐ *Erica cinerea* & *E. tetralix*. Bell Heather & Cross-leaved Heath. Neither are rare in Shropshire, but they are characteristic of south-facing heath and moorland, and wet heaths and bogs respectively. Due to agricultural improvement, particularly on the north Shropshire plain, both of these species are more likely to be found in the uplands. Both used to occur at Brown Moss, but *tetralix* appears to have disappeared around 1965, while *cinerea* hung on until 1977.
- ☐ *Pedicularis sylvatica* & *Polygala serpyllifolia*. Lousewort & Heath Milkwort. Both species are frequent in the hills but very rare in the lowlands. They were both last recorded at Brown Moss in 1965.
- ☐ *Salix aurita*. Eared Willow. Once recorded near pool 6 (1961), it is not found on Brown Moss today. This is yet another upland species, but with a fairly scattered distribution in Shropshire, avoiding limestone areas.
- ☐ *Spergularia rubra*. Sand spurrey. A plant of dry, sandy, but moderately acidic soils - conditions that often prevail in lowland heath. It was recorded in 1965 at Brown Moss but has not been seen there since.



Above: *Erica tetralix* and *E. cinerea* in Shropshire. Distribution map showing both species - open circles represent records made before 1985. Note the apparent decline throughout the lowlands of north and east of the county.

Aliens

Two other species found at Brown Moss are worth a mention:

- ☐ *Juncus tenuis*. Slender Rush. This species, an introduction from America, has appeared at a number of sites in Shropshire, but does not always persist for long. It is well established at Brown Moss, having first been seen by a surveyor for English Nature in 1977 and still being locally frequent in 1996. This species does not pose a threat, and is often considered an interesting addition to the vegetation.
- ☐ *Crassula helmsii*. New Zealand Pigmyweed. A tricky plant - it looks like a cross between *Callitriche* and Blinks (*Montia fontana*) with small, fleshy leaves arranged in opposite pairs alternating at right angles along a creeping stem. It grows amazingly quickly and is evergreen. In just a few years it can spread right across a shallow pool, forming a dense mat six inches thick, smothering any other low-growing plants. It was first recorded in Shropshire by Will Prestwood in a farm pond in 1988 and was found at Brown Moss in 1990 by Ian Trueman. Assiduous efforts by County Council rangers have kept it in check, but it has survived treatment with Roundup (Glyphosate) and cold winter temperatures of below -7°C, allegedly low enough to kill it off.

Future Plans

It is evident that the main change at Brown Moss over the last forty years is a great increase in the number of birch trees there. The shade and leaf litter they produce is clearly having a detrimental effect on the heathland and wetland vegetation; they are probably also contributing to the drying up of the Moss in the summer by increasing the rate of transpiration. For this reason Shropshire County Council has plans to remove much of the birch scrub, leaving some shelter belts and many of the mature oaks.

Removing many of the trees is clearly vital if the variety of rare and interesting plants is to be maintained. Brown Moss is without doubt one of the most important sites in the county: only the Llyncllys & Llanymynech Hills can compare with it for the variety of species in a small area. It is not just for plants that the Moss is important: there is - among other things - a Red Data Book snail (*Lymnaea glabra*) there, too.

There is a vigorous campaign by a few local people to prevent the proposed management of the Moss, with the perhaps well-intentioned view that felling trees is a bad thing *per se*. It is true that the open habitat of the common is not entirely natural, but it has evolved over hundreds of years, while grazing and collecting wood for fuel has kept the trees in check. As the commoners no longer keep stock the trees have returned, but any woodland that develops will be much poorer in species than the open heath and pools are. A comparison can be made with Boreatton Moss near Baschurch, which is now covered with very dense birch scrub and some shallow, stagnant pools. The most striking feature of the site is in the great abundance of mosquitoes that are to be found there during the summer months...

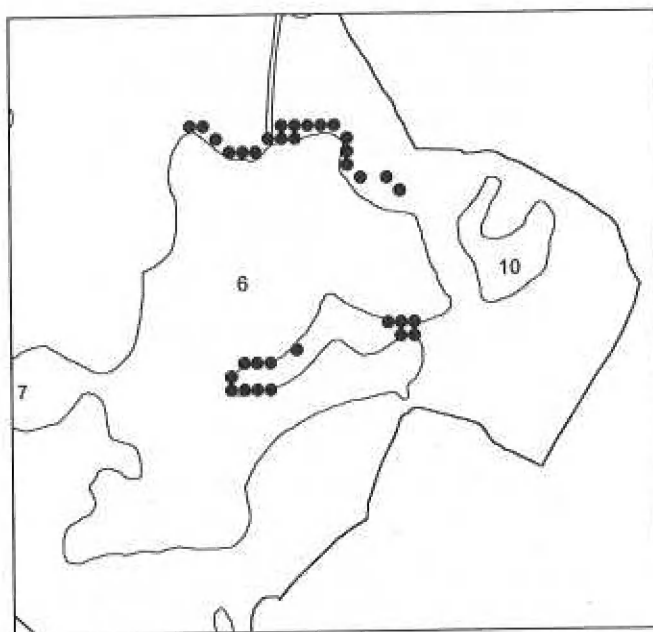
On the assumption that the County Council will win the argument over Brown Moss, the Flora Group is engaged in a monitoring programme of the rare plants, in order to help assess the effectiveness of any work undertaken. The plan overleaf shows the numbering system for the pools. We use a 10m grid for monitoring the distribution of a dozen important indicator species, and for watching the spread of *Crassula*. Anyone who records any of the above species is invited to mark the locations on the plan and send it to the Flora Group for incorporation into the monitoring programme.

Alex Lockton & Sarah Whild

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Distribution of *Crassula helmsii* (New Zealand Pigmyweed) around the main pool at Brown Moss in 1995.

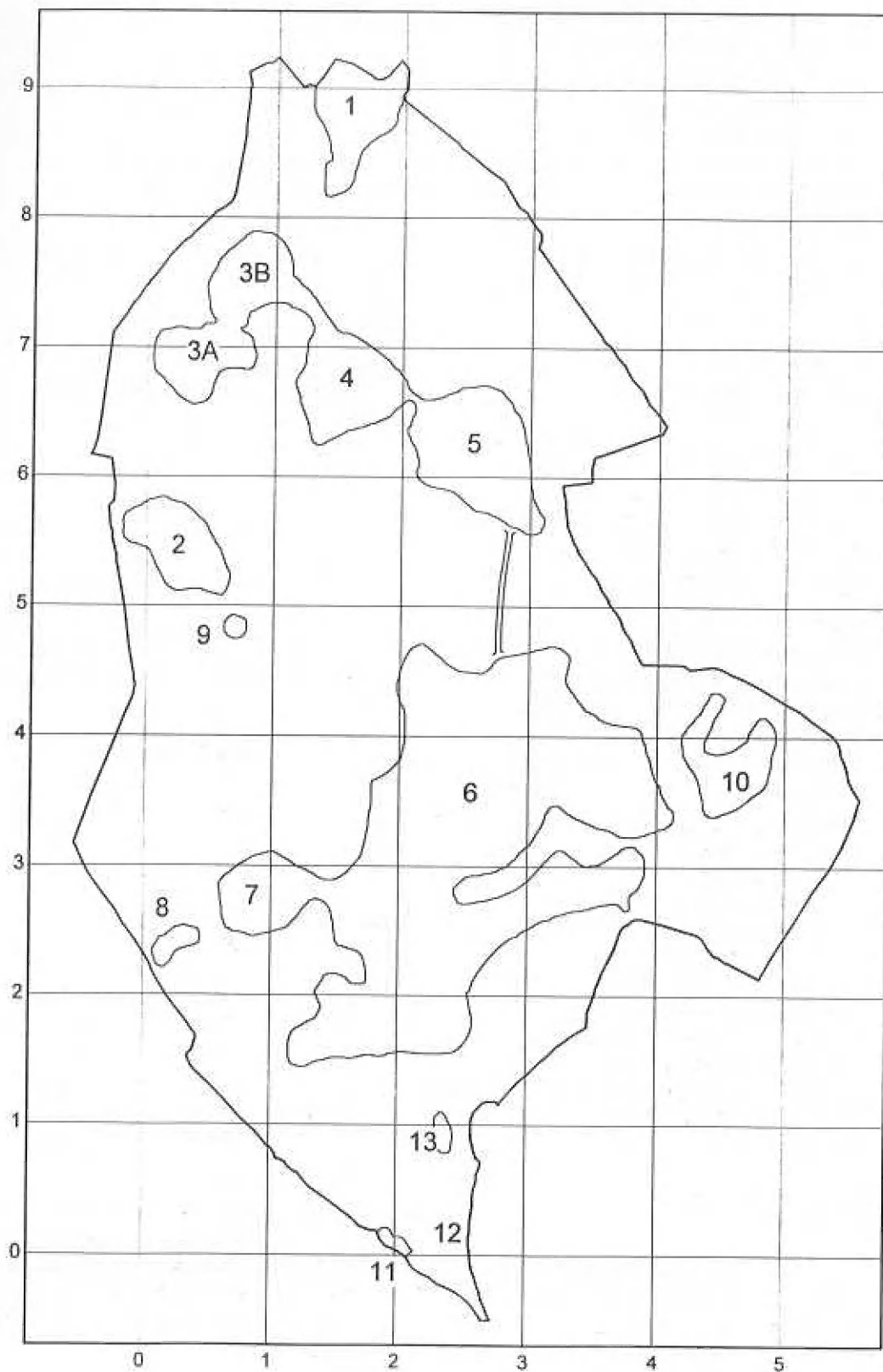
A black dot indicates that this species was present within that 10m square (grid not shown).

Acknowledgements

- ☐ We would like to thank English Nature and Shropshire County Council for access to their records and information.
- ☐ All data analysis is performed by the computer programs *Recorder*, supplied by the JNCC, and *DMap*, written by Alan Morton of Imperial College, Berkshire.

Plan of Brown Moss

Showing the numbering system for the pools. Grid lines show 100m intervals - each square is 1 hectare in size. The numbers represent the last digits in a six-figure grid reference. For example, the number 6 in the middle of the large pool is on the map in square 23. This corresponds to a grid reference of SJ562393.



The Shropshire Flora Group

What do we do?

- ☐ Organise and lead field trips each summer to provide free botanical training and collect records from under-recorded parts of the county.
- ☐ Hold a winter meeting with a talk on a subject of botanical interest.
- ☐ Produce 2 newsletters each year to inform members of the activities of the group and provide information about ecological issues.
- ☐ Provide an identification service to members for difficult species of plants.
- ☐ Computerise and validate all plant records for Shropshire.
- ☐ Provide print-outs and reports to facilitate further recording.
- ☐ Provide information each year to the Biological Records Centre on first county records.
- ☐ Carry out field work for the planned new BSBI Atlas of the British Flora.
- ☐ Carry out field work to survey and monitor nature reserves.
- ☐ Respond to enquiries from local authorities, environmental organisations and the public for information about the natural environment.
- ☐ Publish books and reports on ecology and natural history.
- ☐ Provide information for the production of strategic planning documents by government and local government agencies.
- ☐ Offer a data management service to a variety of environmental organisations and land managers.

Who are we?

The Flora Group comprises:

- ☐ The BSBI County Recorder - Prof. Ian Trueman
- ☐ The Flora Group Co-ordinator - Sarah Whild
- ☐ The data manager - Alex Lockton
- ☐ The hectad co-ordinators (listed on the back cover)

Any professional or amateur botanists practising in Shropshire are welcome to join the Flora Group and contribute records. We also welcome the co-operation and support of organisations, and are grateful to the following for their involvement over the last year:-

ADAS
Birmingham University School of Continuing Studies
British Waterways
Burwarton Estates
English Heritage
English Nature
The Environment Agency
Field Studies Council, Preston Montford
The National Trust
The North Shropshire Countryside Project
Shrewsbury & Atcham Borough Council Countryside Unit
Shrewsbury Museums Service
Shropshire Museums Service
Shropshire County Council Countryside Service
Shropshire Wildlife Trust
The Shropshire Hills Countryside Project
The Woodland Trust

The following publications are currently available from the Flora Group

- ☐ *Ecological Flora of the Shropshire Region*. C A Sinker *et al.* 1985. £15 + p&p paperback.
- ☐ *Rare Plants of Shropshire - a red data book of vascular plants*. A J Lockton & S J Whild, 1994. £4.50 incl. p&p.
- ☐ *The Flora of Montgomeryshire*. 1995. Ian Trueman, Alan Morton & Marjorie Wainwright. £18 + p&p.
- ☐ *A Provisional List of Habitat Indicator Species for Shropshire*. 1996. Ian Trueman & Sarah Whild. Free to members.

The Shropshire Flora Group

The Flora Group is an association of professional and amateur botanists concerned with the survey and monitoring of the higher plants and vegetation of the county. The Group is associated with the Shropshire Wildlife Trust (SWT) and the Botanical Society of the British Isles (BSBI).

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Ruth Dawes	SJ22
Anne Dyer	SO48
Audrey Franks	SJ63 & 64
Dr H. V. Hughes	SJ80
Jean Hooson	SJ53 & SJ54
Jane Ing	SJ32
Sylvia Kingsbury	SO38 & 39
Alex Lockton	SJ41
Ed Lomas	SJ60
Tavia McLean	SJ71
Pat Parker	SJ42 & 43
Will Prestwood	SJ50
Jean Rapson	SJ61
Elizabeth Roberts	SJ23
Tina Teearu	SO28
Ian Trueman	SJ70
Chris Walker	SJ40
Sarah Whild	SJ51